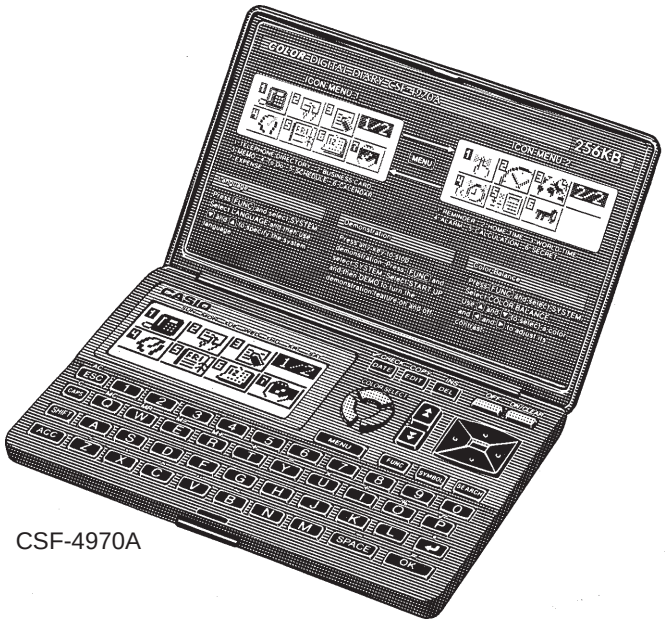
SERVICE MANUAL & PARTS LIST (without price)

CSF-4450A/4650A/4950A/ 4970A (ZX-888)

JUN. 1996



CSF-4970A

INDEX

CASIO®

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FEATURES

3-color Display
The display shows data in three colors: orange, blue and green. Different colors can be used to highlight specific dates in the Calendar, and even the color of text data can be specified.

Selectable Main Menu Format
Choose between a graphic desktop or an icon list for the Main Menu from which you can select the mode you want.

Do Today Function
Every time you turn on the unit, any Schedule Keeper items scheduled for that date appear on the display.

Powerful Data Bank Functions
Telephone Directory, Business Card Directory, Memo, To Do, Expense Manager, Reminder, and Schedule Keeper.

Secret Function
Look up confidential information using a secret password.

Calendar - Schedule Keeper - Reminder - To Do Linking
Reminder and To Do items are automatically displayed in the applicable Schedule Keeper dates. Markers appear on the Calendar display to indicate dates for which Schedule Keeper, Reminder, and To Do items are scheduled.

Timepiece with Home time and World Time
Dual timekeeping for two different locations.

Powerful Alarm Functions
In addition to the standard daily alarm, you can also set alarms for Schedule Keeper, Reminder, and To Do items.

Calculator
A 12-digit arithmetic calculator is just the thing for those quick, on-the-go calculations.

Data Communication
Exchange data with another CSF Unit or with a CASIO SF Unit.

Note
- This unit is equipped with a demonstration feature, which is activated before the unit is shipped from the factory. Be sure to turn the demonstration off before using the unit for normal operation.
  If you don't, any display color balance settings you make will be cleared every time you turn the unit off.

SPECIFICATIONS

Memory Capacity

Memory capacity differs according to model. The following shows the memory capacity for each available model.

Model	Memory
CSF-4450A	32K bytes
CSF-4650A	64K bytes
CSF-4950A	128K bytes
CSF-4970A	256K bytes

The following shows the number or items that can be stored in each model (CSF-4450A/4650A/4950A/4970A).

Telephone Directory

Approximately 1,200/2,700/5,700/11,600, under the following conditions:
- 8-character name
- 10-character telephone number

Approximately 600/1,300/2,900/5,900, under the following conditions:
- 8-character name
- 10-character telephone number
- 20-character address

Business Card Directory

Approximately 300/700/1,500/3,000, under the following conditions:
- 10-character employer name
- 8-character personal name
- 10-character telephone number
- 10-character position
- 10-character department
- 20-character address

Memo

Approximately 1,100/2,600/5,400/11,100, 20-character memos.

To Do

Approximately 700/1,600/3,400/7,100, under the following conditions:
- 20 character description
- Deadline set

Schedule Keeper

Approximately 700/1,500/3,200/6,500, under the following conditions:
- 20 character description
- Illustration used
- Starting time specified, alarm time set

Approximately 900/2,000/4,100/8,500, under the following conditions:
- 20 character description
- Illustration not used
- Starting time specified, no alarm time

Reminder

Approximately 1,500/3,300/6,900/14,200, under the following conditions:
- 10 character description
- Alarm time set

Approximately 1,700/3,700/7,800/16,000, under the following conditions:
- 10 character description
- No alarm time

Expense Manager

Approximately 800/1,800/3,800/7,700, under the following conditions:
10 character description
Expense type and payment type set

Main Modes:

Telephone Directory, Business Card Directory, Memo, Schedule Keeper, To Do, Expense Manager, Reminder, Calendar, Home Time, World Time and Calculator

Data Storage:

Storage and recall of telephone, business card, memo, schedule, to do, expense, reminder data; calendar display; secret memory area; editing; memory status display

Clock:

Worldtime; reminder alarm; schedule alarm; to do alarm; daily alarm; accuracy under normal temperatures: ±3 seconds average

Calculation:

12-digit arithmetic calculations; arithmetic constants (+, -, ×, ÷); independent memory; percentages; square roots; 24-digit approximations; date calculations; other mixed calculations

General:

Display element: 16-column × 4-line LCD

Main component: LSI

Power supply: Three lithium batteries (CR2032)

Current consumption:

ON: 1.6 mA or under (TEL mode)
OFF: 13 μA or under

Low battery message: 7.2 V ± 2.0%

Forced power off: 6.7 V ± 2.0%

Battery life:

Main: Approximately 90 hours continuous display in Telephone Directory; approximately 70 hours repeating one minute of input and 10 minutes of display in Telephone Directory

Power consumption: 0.08 W

Auto power off: Approximately 6 minutes after last key operation

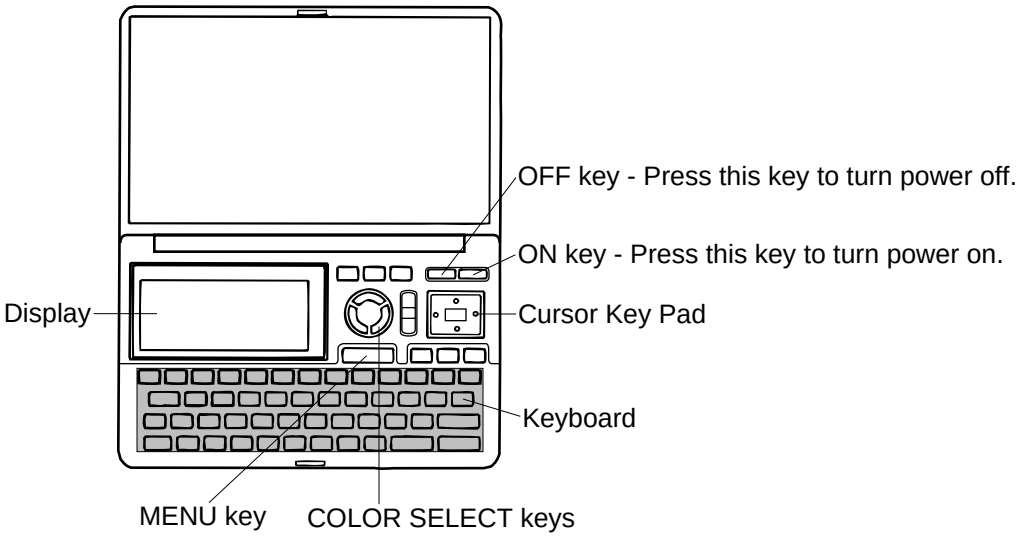
Operating temperature: 0°C ~ 40°C (32°F ~ 104°F)

Dimensions:

Unfolded: 10.7H × 145W × 174.5D mm ($^{7}/_{16}$"H × $5^{11}/_{16}$"W × $6^{7}/_{8}$"D)
Folded: 15.3H × 145W × 89.5D mm ($^{5}/_{8}$"W × $5^{11}/_{16}$"W × $3^{1}/_{2}$"D)

Weight: 125 g (4.4 oz) including batteries

GENERAL GUIDE


OFF key - Press this key to turn power off.
ON key - Press this key to turn power on.
Display
Cursor Key Pad
Keyboard
MENU key
COLOR SELECT keys

About the Demonstration feature...

The CSF Unit comes with a Demonstration feature that shows sample screens and input data for each of its functions. When the Demonstration feature is turned on, the CSF Unit automatically shows the various demonstration screens in sequence each time you turn it on.

- You can interrupt an ongoing demonstration at any time by pressing any key.

To turn the Demonstration feature on and off

1. While the main menu is on the display, press **FUNC.**
2. Press **1** to select **SYSTEM**.
3. Press ▼ to display the second **SYSTEM** Menu.
4. Press **2** to select **START UP**.
5. Use ▲ and ▼ to move the pointer to **DEMO**.
6. Use ◀ and ▶ to turn the Demonstration feature on and off.
7. After making the setting you want, press **OK**.

Note

- The demonstration feature screens will not be displayed when the Do Today feature is turned on.

Selecting a Main Menu Format

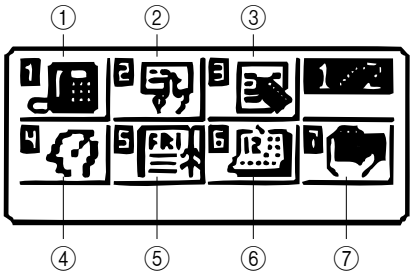
You can select either a graphic desktop or an icon list as the Main Menu format. You get the same features and functions, regardless of the Main Menu format you select.

Important!

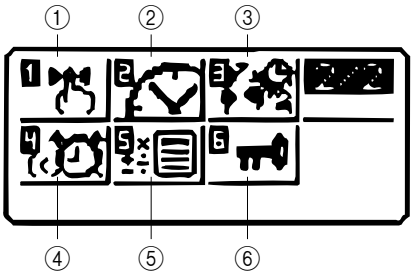
- All of the examples in this manual are illustrated using the icon list, and all references to the Main Menu apply to both the graphic desktop and the icon list, unless otherwise specified.

Icon List Format

The Main Menu icon list format provides two screens of icons from which you can choose the function you want.



① Telephone Directory
② Business Card Directory
③ Memo
④ To Do
⑤ Schedule Keeper
⑥ Calendar
⑦ Expense Manager



① Reminder
② Home Time
③ World Time
④ Daily Alarm
⑤ Calculator
⑥ Secret Memory Area

To enter a mode

Use the ▲, ▼, ◀, and ▶ cursor keys to move the highlighting to the mode you want to select and press **OK**. Or you can simply input the number in the upper left corner of an icon to directly enter the corresponding mode without pressing **OK**.

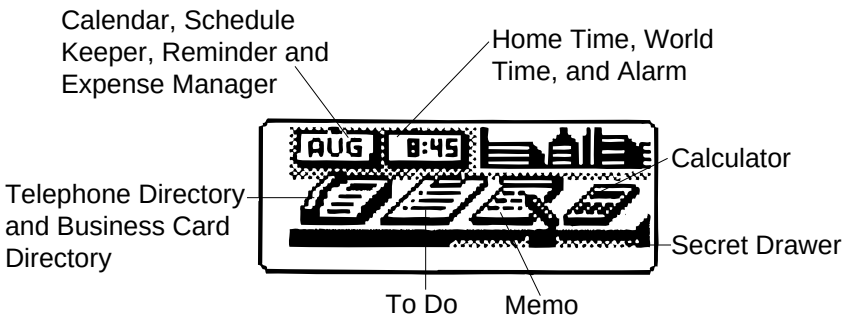
To change from Page 1 to Page 2

- While any icon of Page 1 is highlighted, press ⏬ or **MENU** to change to Page 2.
- While an icon in the bottom row of Page 1 is highlighted, press ▼ to change to Page 2.
- While the Expense Manager icon is highlighted, press ▶ to change to Page 2.

To change from Page 2 to Page 1

- While an icon in the top row of Page 2 is highlighted, press ▲ to change to Page 1.
- While the Reminder icon is highlighted, press ◀ to change to Page 1.
- While any icon of Page 2 is highlighted, press ⏫ or **MENU** to change to Page 1.

Desktop Format



The desktop gives you point-and-select access to the data management features of the CSF Unit. Whenever you want to return to the desktop, simply press the **MENU** button.

- Note that one of the icons on the desktop is flashing, This means that the icon is selected.

How to use the desktop

1. Use the cursor keys to move the flashing around the desktop until the one you want is selected (flashing).
2. After selecting an icon, press **OK** to access the functions of that icon.
   - Selecting some icons (like the Clock and Telephone) cause another selection screen to appear.
   - Details on actually using the features and functions that you access from the desktop are described in the other sections of this manual.

Changing the Desktop Screen's Window Scenery

You can change the scenery that is outside the desktop screen's window to any one of the scenes shown below. Simply display the desktop screen and press the **COLOR SELECT** key that corresponds to the scenery you want to select.

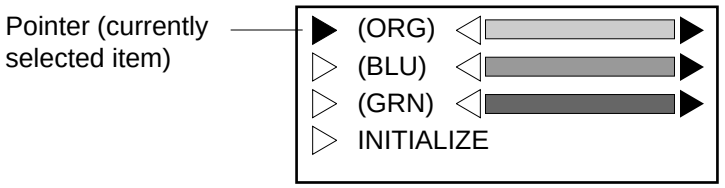
ORG: Night-time city scene
BLU: Daytime city scene
GRN: Beach scene

Adjusting the Color Balance

The following procedure describes how to adjust the color contrast, which controls the relative darkness and lightness of each color on the display.

To adjust the Color Balance

1. While the desktop is on the display, press **FUNC**.
2. Press **1** to select **SYSTEM**.
3. Press ▼ to display the second **SYSTEM** menu.
4. Press **1** to select **COLOR BALANCE**.



5. Use ▲ and ▼ to move the pointer to the color whose contrast you want to set.
6. Use ◀ and ▶ to adjust the contrast of the currently selected color.
   - You can adjust the overall contrast of the display by pressing ⏫ or ⏬ .
7. After you finish adjusting the display contrast, press **OK**.
   - Color contrast settings are registered as soon as you make them. Because of this, pressing either **OK** or **ESC** quits the color contrast procedure only. Pressing **ESC** does not return the color contrast setting to what is was.

Note

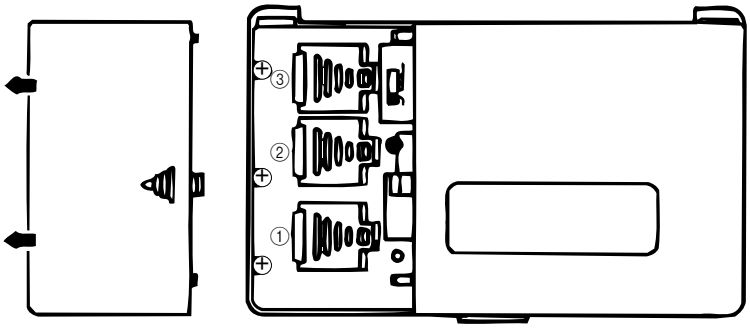
- Temperature changes can cause changes in background color and the tint of display colors .

BATTERY REPLACEMENT

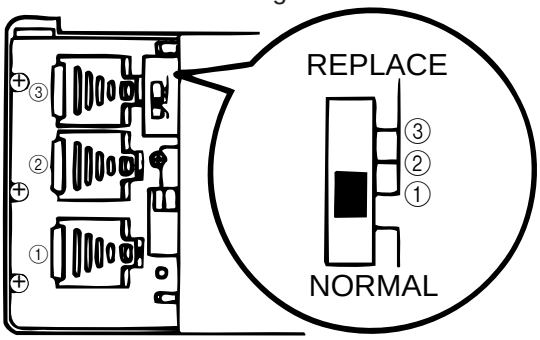
Before replacing the batteries, note the following precaution:

- Be sure to replace all batteries with a full set of new ones, and do not mix old batteries with new ones.

1. Press **OFF** to switch power OFF.
2. Slide the battery compartment cover in the direction indicated by the arrow.

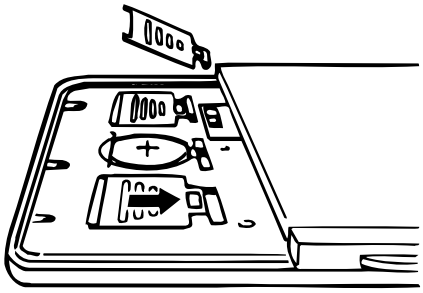


3. Slide the battery switch to the "REPLACE 1" setting.



4. Remove the battery holder by sliding it in the direction indicated by the arrow in the illustration.

Caution
Be sure to remove only one battery at a time. Otherwise, you will lose all data stored in memory.

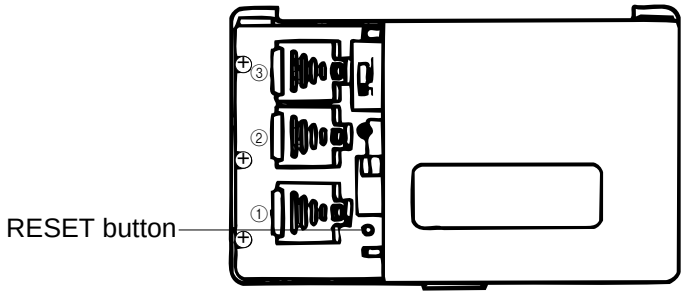


5. Replace the old battery with a new one, making sure that the positive (+) side of the new battery is facing up (so you can see it).
6. Replace the battery holder and faten it in place.
7. Slide the battery switch to the "REPLACE 2, 3" setting and repeat steps 4 through 6 for the other batteries.
   - Be sure to replace all three batteries, using CR2032 lithium batteries only. Never mix old batteries with new ones.
8. Slide the battery switch to the "NORMAL" setting.
   - You will not be able to turn the unit on if the battery switch is not in the "NORMAL" setting.
9. Replace the battery compartment cover.
   - The Home Time screen always appears whenever you turn power on for the first time after replacing batteries.
10. Check the Home Time setting and make changes if necessary.

RESET OPERATION

To perform ALL RESET

1. Open the battery compartment and press the RESET button.



- At this time the following message appears on the display.

CLEAR MEMORY AND
SET UP THE UNIT
FOR OPERATION?
YES/NO

2. Make sure that YES is highlighted. If NO is highkighted, press ◀ to move the highlighting to YES.

Warning!
The next step deletes all data stored in the CSF Unit's memory. Make sure that you really want to delete the data before you continue!

3. Press **OK** to start the RESET procedure.
   - After the ALL RESET operation is complete, the LANGUAGE screen appears on the display.
4. Use the procedure under "Setting the System Language" to select a system language.
   - After you set the system language, the Home Time Screen appears.
5. Check the Home Time setting and make changes if necessary.

Following the all reset operation, the CSF Unit settings are initialized as noted below.

Home Time:	LON 1996/1/1 MON 12:00 AM 12-hour format
World Time:	NYC
Daily Alarm:	12:00 PM
Sound:	Data alarm (Schedule alarm, Reminder alarm and To Do alarm) — ON Daily alarm — OFF Key — ON
Messages:	English
Character input:	CAPS

To perform SECRET RESET

Important!
- The following procedure erases all data stored in the secret drawer. Make sure you do not need any of the data in the secret drawer before deleting it. You can transfer data you might need to the desktop (page 9) before performing this procedure.
- Note that this unit has no procedure for deleting the password only (and leaving secret drawer contents) or secret drawer contents only (and leaving the password).

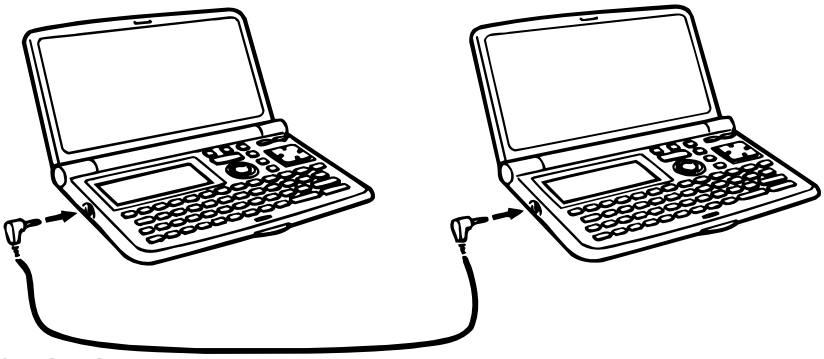
1. Press the **MENU** key.
2. Press the **FUNC** key and then input **1** to select **SYSTEM**.
3. Press ▼ twice to change to the third screen (3/3), and then input **1** to select **SECRET RESET**.
4. Press **OK**.

TO SAVE THE DATA

CSF-4450A/4650A/4950A/4970A can transfer the customer's data to another CSF unit with memory protection only when replacing the LCD or the outer case.

To connect the CSF Unit to another CSF Unit

1. Make sure that the power of both units are switched off.
2. Remove the covers from the data communications jacks on the two CSF Units.
3. Connect the two units using the SB-62 cable.



How to transfer the data

1. Under calculator mode, set the date of the slave unit to Feb. 3rd, 1901.

Operation : [ON] [OK] [1] [DATE] [2] [DATE] [3] [DATE] [M+]

If you do not set the date, the "PASSWORD" is not transferred to the slave unit.

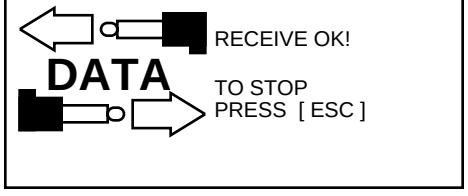
2. Check the hardware parameters of both unit, and if both units have another condition, reset as follows;

[MENU] [FUNC] [2] [3]

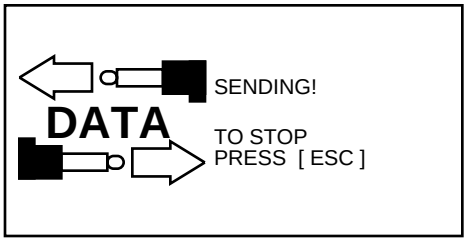
```
////////////  SET UP PAR. ////////////
 PARITY                E/O/N
 BIT LENGTH              7 / 8
 BPS                4800 / 9600
```

[OK]

3. Set up the slave unit.
   - On the desktop, select the telephone icon and press [OK].
   - Select the home icon and press [OK].
   - [FUNC] [2] [2]



4. Set up the customer's unit.
   [MENU] [FUNC] [2] [1] [3] [OK]



If you can not succeed to transfer the data, press ESC key on both units and try to transfer the data again following the procedure above.

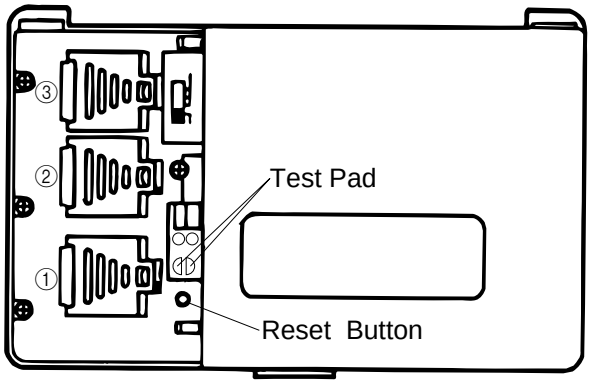
PIN FUNCTION

CPU HCD62121A02 (HC-3017) : COB

NOTE: The CPU is bonding on the PCB. If the CPU is defective, replace the Z888-1 PCB ass'y because the CPU cannot be replaced.

Pin No.	Pin Name	Input/Output	Function
1 ~ 14	KO14 ~ KO1	O	Key common signal
15 ~ 22	KI8 ~ KI1	I	Key input signal
23	BUFON	O	Chip select for RAM
24	IT2	I	Interrupt input
25	IT0	I	Interrupt input
26 ~ 46	AO20 ~ AO0	O	Address bus
47 ~ 54	IO0 ~ IO7	I/O	Data bus
55	OEBO	O	Output enable signal for RAM
56	WEBO	O	Write enable signal for RAM
57 ~ 64	CS10BO ~ CS3BO	O	Chip selecting signals
65	OPT7	O	Reset signal output
69 ~ 72	OPT3 ~ OPT0	O	Changeover signal
73	PORT7	I	Receiving terminal for data communication
74	PORT6	I	Receiving terminal for data communication
75	PORT5	O	Transmitting terminal for data communication
76	PORT4	O	Transmitting terminal for data communication
80	PORT0	I	Low battery message for back-up battery (2.6V)
81	VSS	I	GND
82	PI	I	1MHz clock input
83	PO	O	1MHz clock output
84	VDD	I	+3V source
85	XO	O	4.3MHz clock output
86	XI	I	4.3MHz clock input
87	VCC	I	+3V source
88	VREG2	O	Voltage for main switch detection
89, 90	TS1, TS2	—	Test terminals of factory purpose only
91	VSSR	I	GND
92	BZZ1	O	Buzzer signal output
93	BZZ2	O	Buzzer signal output
94	VSS	I	GND
95	OCLK	O	Clock output
96	ITOFF	I	Switching terminal from main switch
97	TEMU	—	Test terminals of factory purpose only
98	SW	I	Receiving terminal for reset switch
99	VDB	I	+3V source
100	VREG1	—	Test terminals of factory purpose only
101	VREG4	O	+3V source for ROM
102	VREG5	—	Test terminals of factory purpose only
103	VDT1I	I	Forced power off detecting terminal (2.3V)
104	VDT2I	I	Low battery message for main battery (2.5V)
105	VREG3	—	+3V source for RAM

DIAGNOSTIC PROGRAM



Bottom View

To enter the diagnostic program, proceed as follows;
1 : Turn the power switch ON and open the battery cover.
2 : Press Reset Button while shorting the Test pad.

STEP	OPERATION	DISPLAY	NOTE
Enter the diagnostics	Press ON while shorting the Test pad.	///// SELF TEST PROG ///// PRESS OK KEY QUIT BY OFF KEY CASIO MAR 1996	
Main menu	OK	TEST 4 BUZZER 1 DISP 5 I/F 2 MEMORY 6 CONT 3 KEY 7 RESET	
Display Check	1	DISPLAY 1 DISPLAY 2 FRAME FREQ.	
	1	No color, no display	
	OK	Orange color is displayed	
	OK	Green color is displayed	
	OK	Blue color is displayed	
	OK	Checkers are displayed	
	OK	Reverse checkers are displayed	
	OK	Frame is displayed	
	OK	Dots at the 4 corners are displayed	
	OK	Vertical 4 colors are displayed	
	OK	Horizontal 4 colors are displayed	
	OK	TEST 4 BUZZER 1 DISP 5 I/F 2 MEMORY 6 CONT 3 KEY 7 RESET	

STEP	OPERATION	DISPLAY	NOTE
Memory Check	2	MEMORY 3 WR 2 4 READ 2 1 WR 1 5 DUMP 2 READ 1 6 CHKSUM	
	1	RAM WRITE 1	Write the test pattern 1 into RAM
		MEMORY 3 WR 2 4 READ 2 1 WR 1 5 DUMP 2 READ 1 6 CHKSUM	After 1 sec.
	2	EXECUTING !!	Read the test pattern 1 from RAM
		COMPLETE !! 32/64/128/256 KB	After 1 sec.
Memory Check	OK	MEMORY 3 WR 2 4 READ 2 1 WR 1 5 DUMP 2 READ 1 6 CHKSUM	
	3	RAM WRITE 2	Write the test pattern 2 into RAM
		MEMORY 3 WR 2 4 READ 2 1 WR 1 5 DUMP 2 READ 1 6 CHKSUM	After 1 sec.
	4	EXECUTING !!	Read the test pattern 2 from RAM
		COMPLETE !! 32/64/128/256 KB	After 1 sec.
	OK	MEMORY 3 WR 2 4 READ 2 1 WR 1 5 DUMP 2 READ 1 6 CHKSUM	
	5	XXXX	Wiring check for ROM
Memory Check	OK	MEMORY 3 WR 2 4 READ 2 1 WR 1 5 DUMP 2 READ 1 6 CHKSUM	
	6	CHECK SUM TY SZ SUM XOR C5 0 512 29CF XX	
	OK	MEMORY 3 WR 2 4 READ 2 1 WR 1 5 DUMP 2 READ 1 6 CHKSUM	
	ESC	TEST 4 BUZZER 1 DISP 5 I/F 2 MEMORY 6 CONT 3 KEY 7 RESET	

STEP	OPERATION	DISPLAY	NOTE
KEY CHECK	3	KEY & TIME 1 RANDOM 2 AUTO 3 TIME	
	1		No display
	ESC, 1, 2, 3.....	18 19 20 21	To push the key sequentially that key code is being appeared in the display.
	OK	TEST 4 BUZZER 1 DISP 5 I/F 2 MEMORY 6 CONT 3 KEY 7 RESET	
Buzzer Check	4	BUZZER 1 BEEP 2 ALARM 1 3 ALARM 2	1 : Key input sound 2 : Sound alarm 1 3 : Sound alarm 2
	ESC	TEST 4 BUZZER 1 DISP 5 I/F 2 MEMORY 6 CONT 3 KEY 7 RESET	
Interface Check	5	I/F 1 TRANS 2 RECEIVE 7N9 3 ASCII 4 LOOP	The parameter can be changed as follows; Key "5" : Bit length 7 or 8 bit Key "6" : Parity bit N(Non), E(Even) or O(Odd) Key "7" : BPS 9(9600) or 4(4800)
	1	EXECUTING !!	Send the code "H"
	2	No display	Display the received charactor.
	3	EXECUTING !!	Send the ASCII code
	4	EXECUTING !!	Loop back check
	ESC	I/F 1 TRANS 2 RECEIVE 7N9 3 ASCII 4 LOOP	
CONTRAST ADJ.	6	TEST 4 BUZZER 1 DISP 5 I/F 2 MEMORY 6 CONT 3 KEY 7 RESET	
	Contrast up : ▲▲ or SHIFT + ▼▼ Contrast down : ▼▼ or SHIFT + ▼▼	▶ (ORG) ◁ ▶ ▷ (BLU) ◁ ▶ ▷ (GRN) ◁ ▶ ▷ INITIALIZE	Contrast adjustment
	Cursor keys		Adjust the color using cursor keys until the primary colors appear accurately.

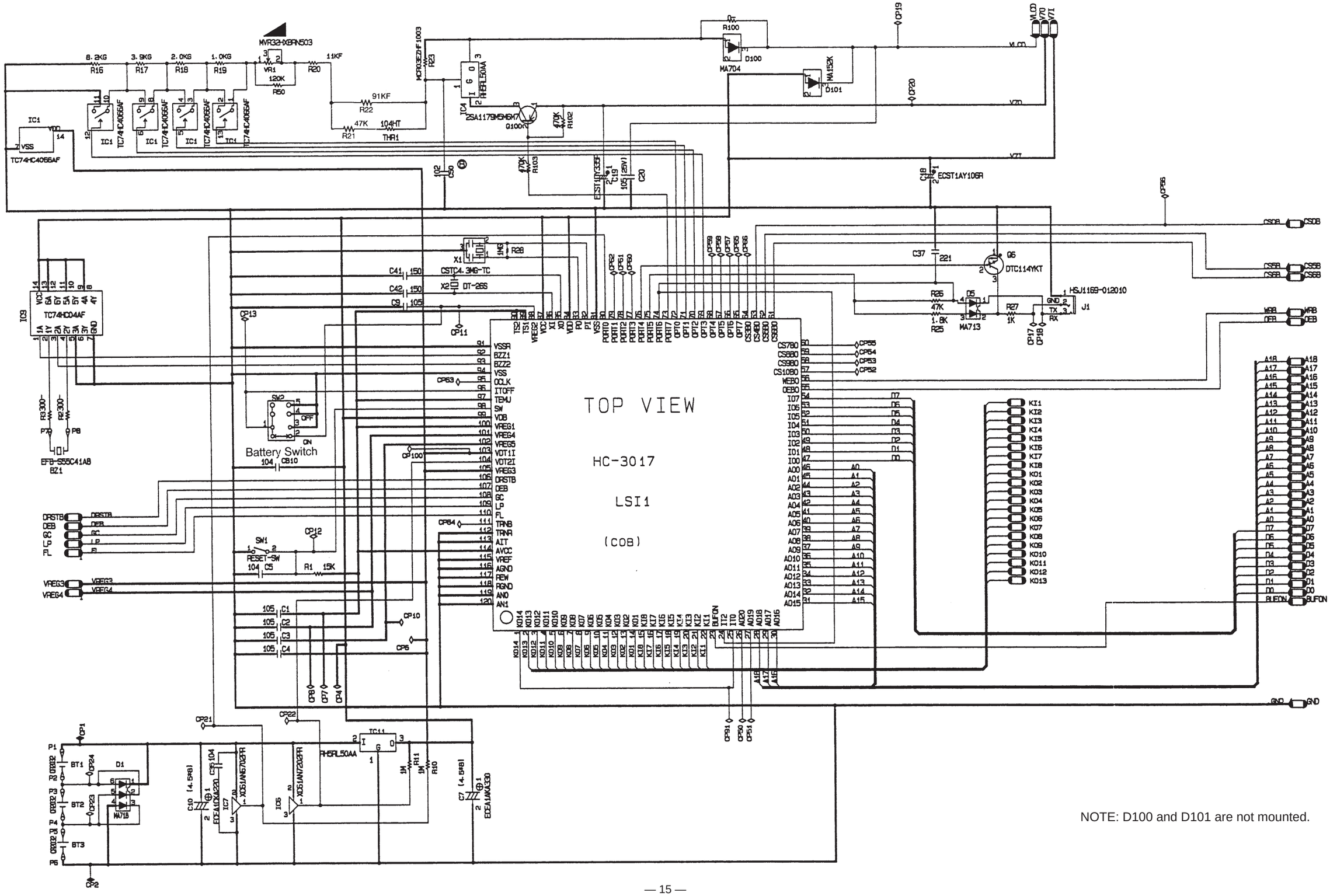
STEP	OPERATION	DISPLAY	NOTE
	OK	TEST 4 BUZZER 1 DISP 5 I/F 2 MEMORY 6 CONT 3 KEY 7 RESET	
RESET	7	NAME? TELEPHONE 0	END

ERROR MESSAGE

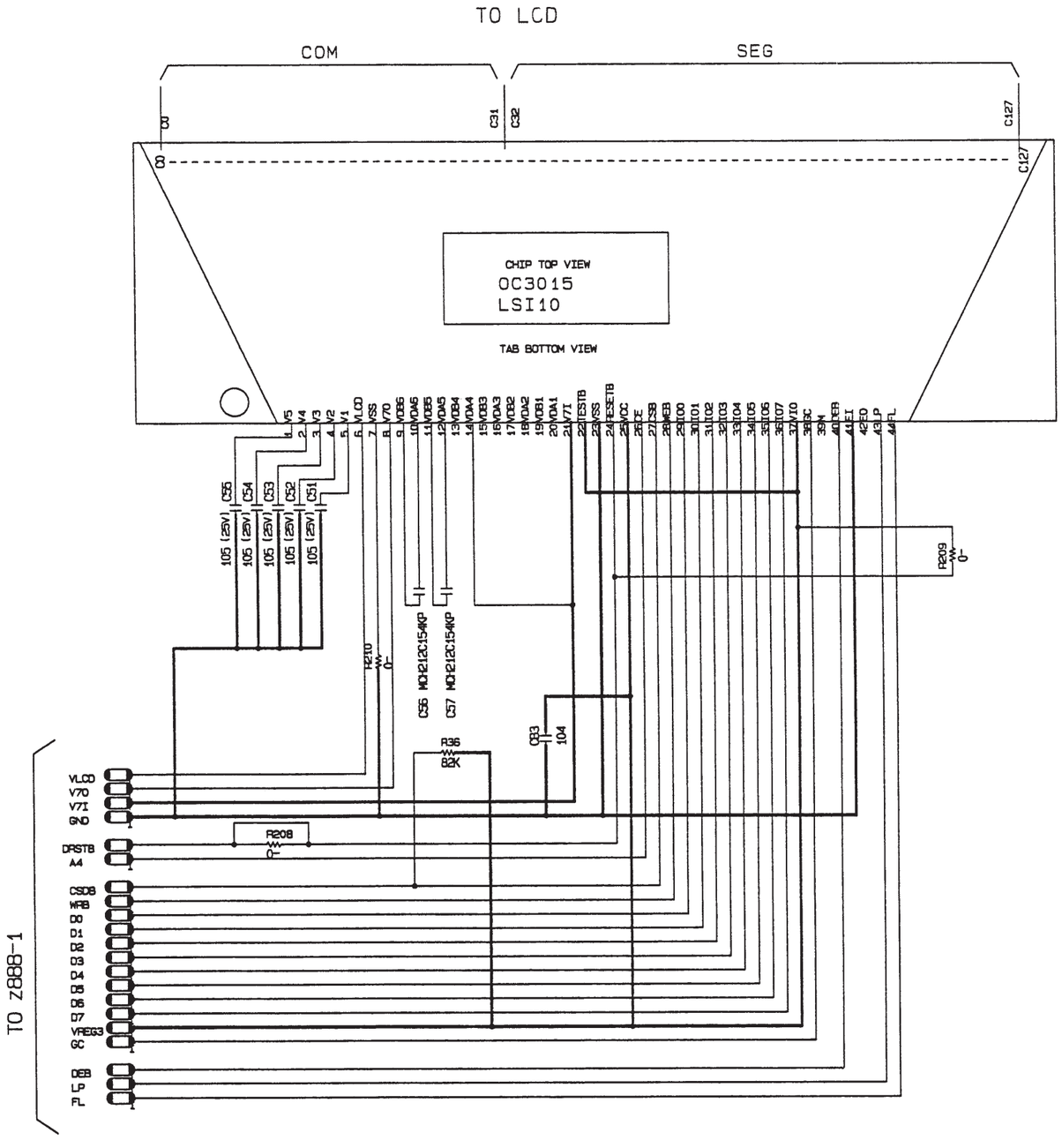
Message	Meaning	Action
NO DATA!	Search operation attempted when no data is stored in memory.	Current search operation cannot be performed.
DATA ITEM NOT FOUND!	Data specified in search operation does not exist in memory.	Change specification or cancel search.
MEMORY FULL!	No more room in memory for storage of data.	Delete unnecessary data items from memory.
ALARM TIME ALREADY USED!	Attempt to set a Schedule Keeper, a Reminder or a To Do alarm time that is already used for another entry.	Set a different alarm time or change the existing alarm time to another one.
ALARM TIME ALREADY PASSED!	Attempt to set a Schedule Keeper, a Reminder or a To Do alarm time for a time/date that is already passed.	Set a different alarm time (for a future time/date).
SECRET DATA!	Alarm for a secret memory area data item is sounding.	Enter the secret memory area to view details of the alarm.
PASSWORD MISMATCH!	Attempt to enter the secret memory area using a password that does not match the one preset for the secret area.	Use the correct password.
TRANSMIT ERROR!	Error during data communications.	Cancel the data communications operation and try again.
STOPPED!	Data communication has been interrupted.	Stop the data communication procedure and try again.
SAME TYPE ALREADY USED!	Attempt to store a label that is identical to one already stored.	Use a different label.

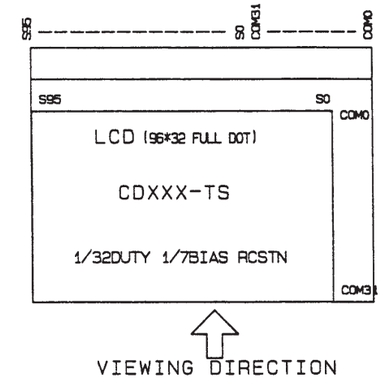
SCHEMATIC DIAGRAMS

Main Block



Display Block



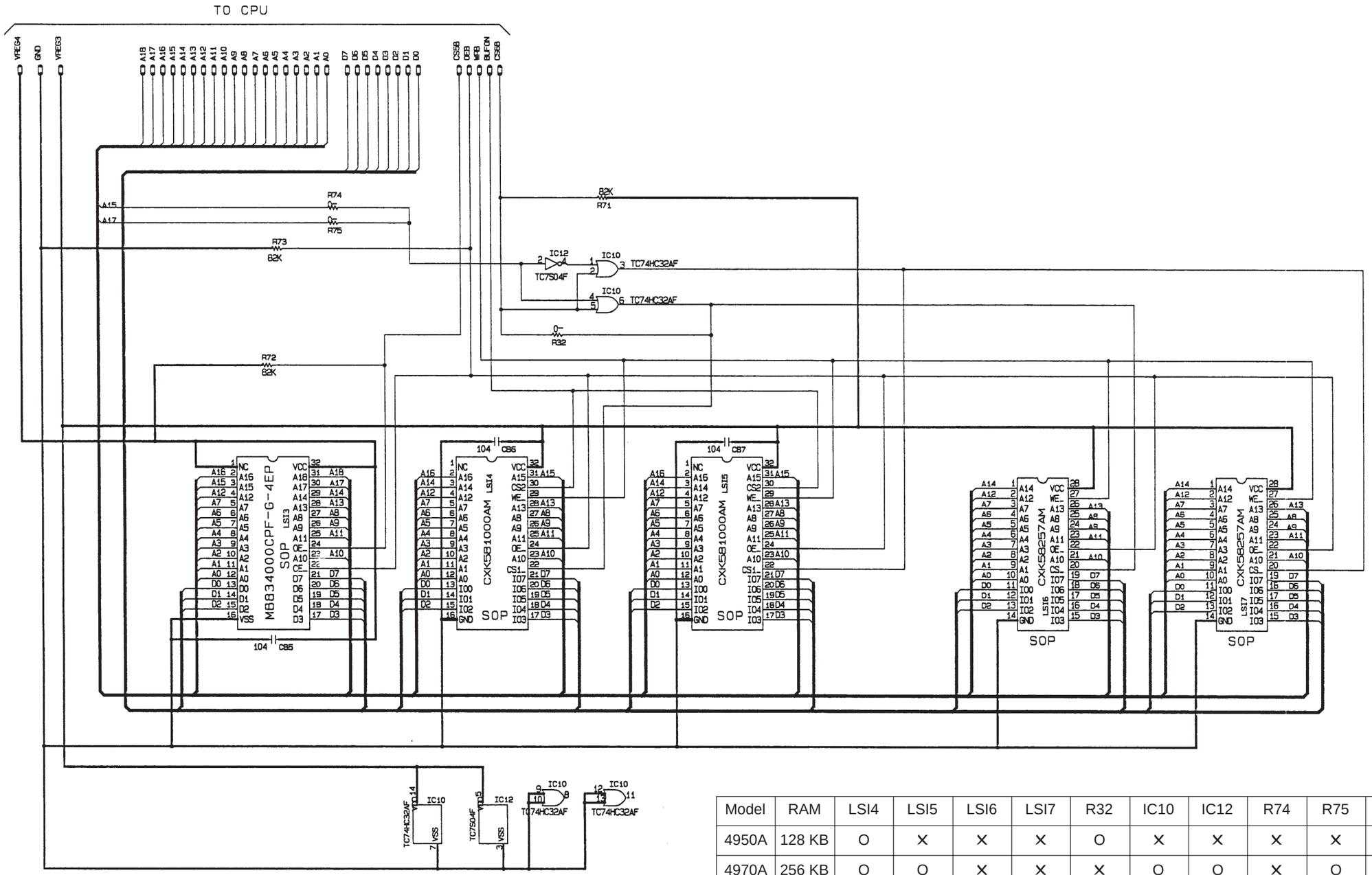


LCD-TAB Connection

LCD	COM0~COM31	S0~S95
TAB(OC3015)	C0~C31	C32~C127

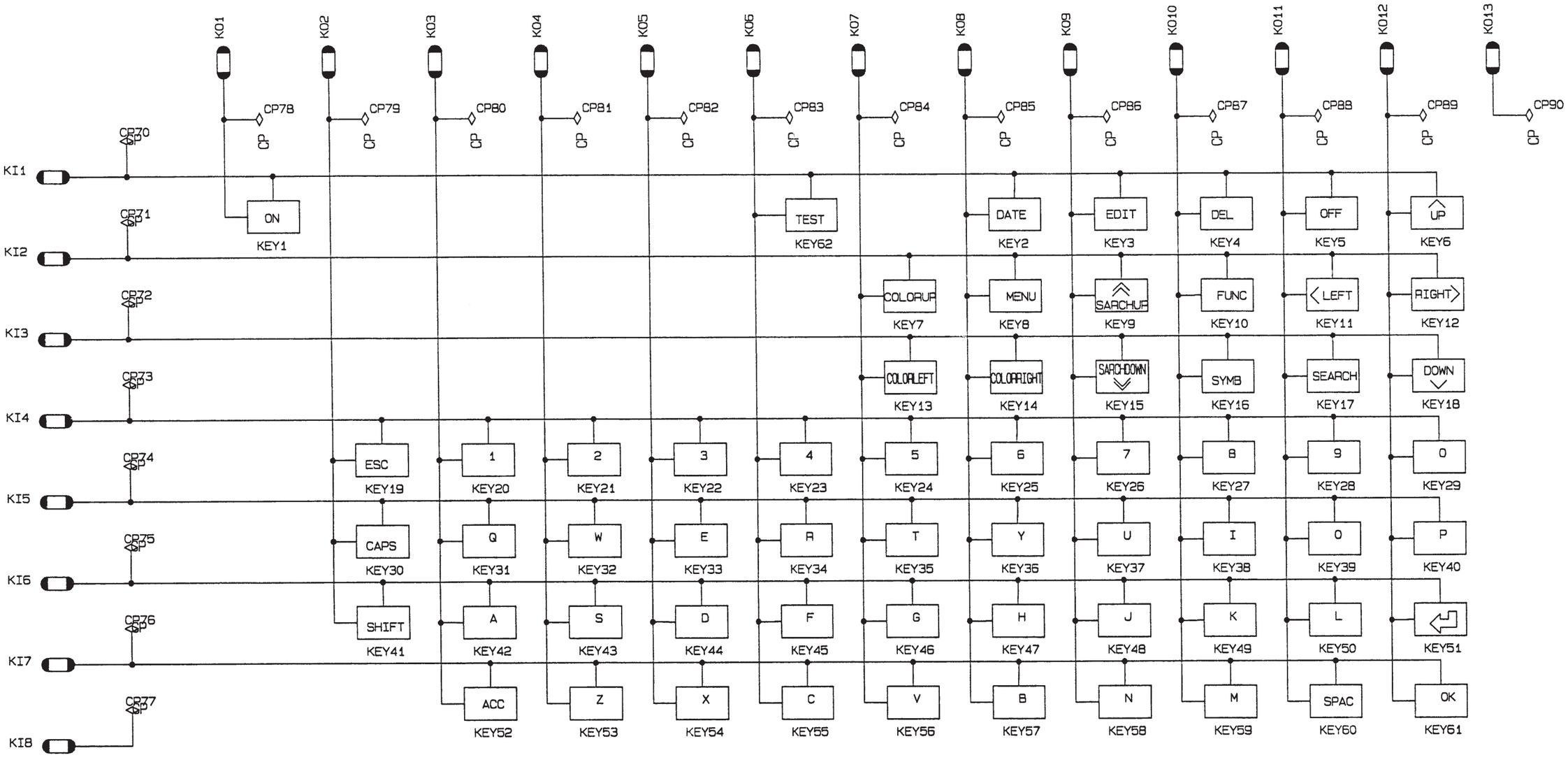
NOTE: R208, R209 and R210 are not mounted.

Memory Block

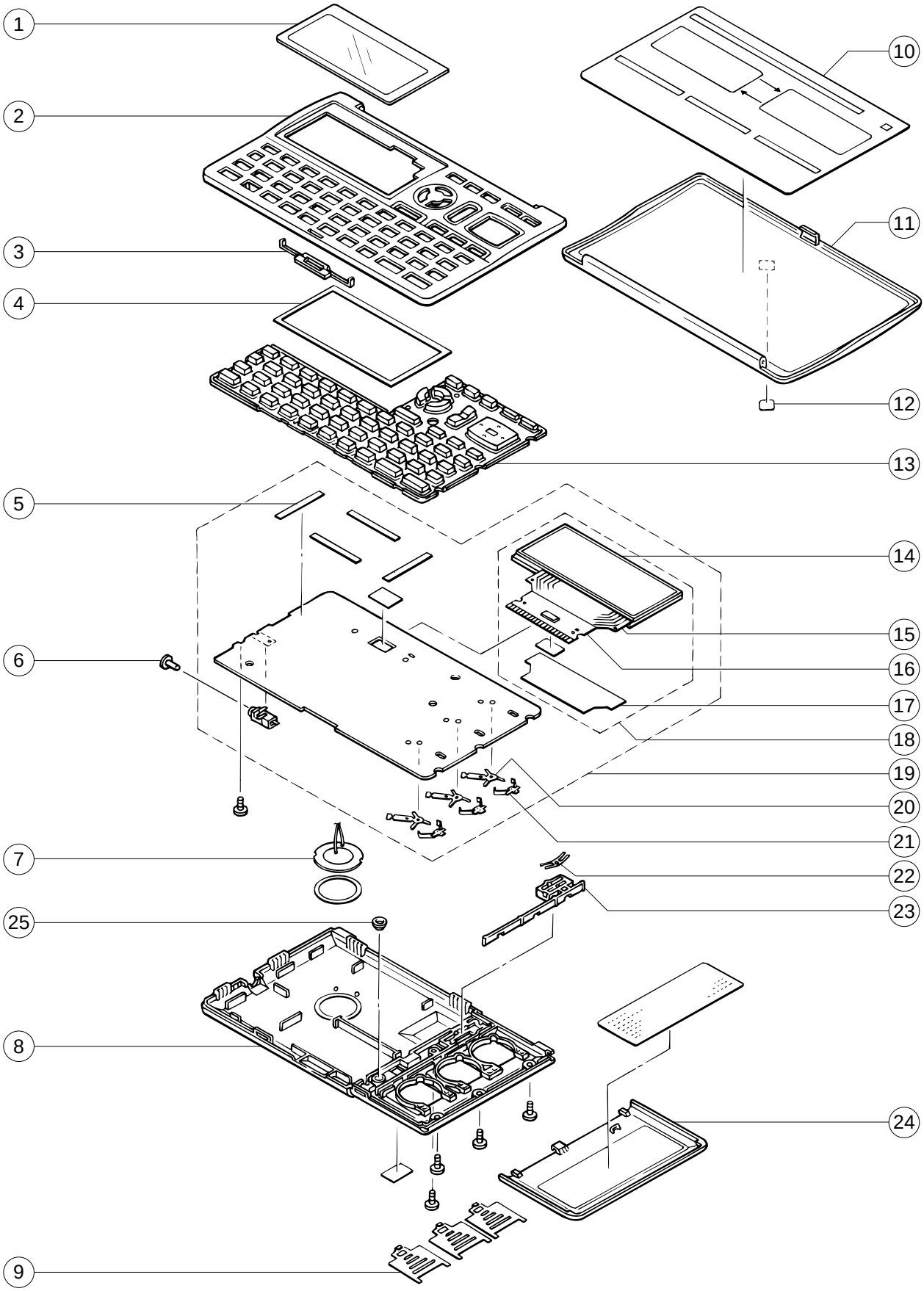


Model	RAM	LSI4	LSI5	LSI6	LSI7	R32	IC10	IC12	R74	R75	CB7
4950A	128 KB	O	×	×	×	O	×	×	×	×	×
4970A	256 KB	O	O	×	×	×	O	O	×	O	O
4450A	32 KB	×	×	O	×	O	×	×	×	×	×
4650A	64 KB	×	×	O	O	×	O	O	O	×	O

Key block


KO1
KO2
KO3
KO4
KO5
KO6
KO7
KO8
KO9
KO10
KO11
KO12
KO13
CP78
CP79
CP80
CP81
CP82
CP83
CP84
CP85
CP86
CP87
CP88
CP89
CP90
CP
CP70
CP71
CP72
CP73
CP74
CP75
CP76
CP77
KI1
KI2
KI3
KI4
KI5
KI6
KI7
KI8
ON
KEY1
TEST
KEY62
DATE
KEY2
EDIT
KEY3
DEL
KEY4
OFF
KEY5
UP
KEY6
COLORUP
KEY7
MENU
KEY8
SARCHUP
KEY9
FUNC
KEY10
LEFT
KEY11
RIGHT
KEY12
COLORLEFT
KEY13
COLORRIGHT
KEY14
SARCHDOWN
KEY15
SYMB
KEY16
SEARCH
KEY17
DOWN
KEY18
ESC
KEY19
1
KEY20
2
KEY21
3
KEY22
4
KEY23
5
KEY24
6
KEY25
7
KEY26
8
KEY27
9
KEY28
0
KEY29
CAPS
KEY30
Q
KEY31
W
KEY32
E
KEY33
R
KEY34
T
KEY35
Y
KEY36
U
KEY37
I
KEY38
O
KEY39
P
KEY40
SHIFT
KEY41
A
KEY42
S
KEY43
D
KEY44
F
KEY45
G
KEY46
H
KEY47
J
KEY48
K
KEY49
L
KEY50
KEY51
ACC
KEY52
Z
KEY53
X
KEY54
C
KEY55
V
KEY56
B
KEY57
N
KEY58
M
KEY59
SPAC
KEY60
OK
KEY61

EXPLODED VIEW



PARTS LIST

N	Item	Code No.	Parts Name	Specification	Q								R
					4450A	4650A	4950A			4970A			
					AM	EM	IMU	JM	IM	MMU	NM	MM	
		PCB ASS'Y (Z888-1 ASS'Y)											
	LSI1	2012 4158	LSI	HCD62121A02	1	1	1	1	1	1	1	1	B
N	LSI3	2012 4501	LSI	UPD23C4001EJGW-C51	1	1	1	1	1	1	1	1	B
	LSI6,7	2012 3192	LSI	TC55257DFL-7085V	1	2	0	0	0	0	0	0	B
	LSI4,5	2012 1659	LSI	TC551001BFL-10V(S)	0	0	1	1	1	2	2	2	B
	X1	2590 1967	Ceramic oscillator	CSTC4.30MG-TC	1	1	1	1	1	1	1	1	C
	X2	2590 1288	Crystal oscillator	C-002RX	1	1	1	1	1	1	1	1	C
	J1	3501 6538	Mini jack	HSJ1169-012010	1	1	1	1	1	1	1	1	C
	IC1	2114 4795	CMOS-IC	TC74HC4066AF(EL)	1	1	1	1	1	1	1	1	B
	IC4,11	2105 2737	CMOS IC	RH5RL50AA-T1	2	2	2	2	2	2	2	2	B
N	IC6	2105 5474	CMOS IC	XC61AN7202PR	1	1	1	1	1	1	1	1	B
N	IC7	2105 5481	CMOS IC	XC61AN6702PR	1	1	1	1	1	1	1	1	B
	IC9	2105 5222	MOS IC	TC74HC04AF(EL)	1	1	1	1	1	1	1	1	B
	IC10	2105 5012	CMOS IC	HD74HC32T-EL	0	1	0	0	0	1	1	1	B
	IC12	2105 1561	CMOS IC	TC7S04F-TE85R	0	1	0	0	0	1	1	1	B
	Q6	2259 0959	Chip transistor	DTC114YKT-146	1	1	1	1	1	1	1	1	C
	Q100	2250 1281	Chip transistor	2SA1179M5,M6,M7-TB	1	1	1	1	1	1	1	1	C
	D1	2390 0847	Chip diode	MA718-(TX)	1	1	1	1	1	1	1	1	C
	D5	2390 0364	Schottky diode	MA713-TX	1	1	1	1	1	1	1	1	C
	VR1	2765 1869	Chip volume	MVR32HXBRN503	1	1	1	1	1	1	1	1	C
	THR1	2755 0147	Thermistor	104HT	1	1	1	1	1	1	1	1	C
N	5	6418 0020	Cushion Z888	C441358-1	4	4	4	4	4	4	4	4	B
N	18	6417 9640	LCD ass'y	C340870*1 A	1	1	1	1	1	1	1	1	B
	20	6409 9960	Battery spring A-L525AM	C413299-1	3	3	3	3	3	3	3	3	X
	21	6408 9410	Battery spring B-L594AM	C311911-2	3	3	3	3	3	3	3	3	X
		The following electronic parts will be not supplied from CASIO.											
	C1~4, C9,C20, C51~55		Chip capacitor	MCH312F105ZP	11	11	11	11	11	11	11	11	
	C5,C35, CB3, CB5~6, CB7, CB10		Chip capacitor	MCH183F104ZK	6	7	6	6	6	7	7	7	
	C7		Electrolytic capacitor	ECEA1AKA330I	1	1	1	1	1	1	1	1	
	C10		Electrolytic capacitor	ECEA1CKA220I	1	1	1	1	1	1	1	1	
	C18		Chip tantalum capacitor	ECST1AY106R	1	1	1	1	1	1	1	1	
	C19		Chip tantalum capacitor	ECST1DY335R	1	1	1	1	1	1	1	1	
	C37		Chip capacitor	MCH185A221JK	1	1	1	1	1	1	1	1	
	C41,42		Chip capacitor	MCH185A150JK	2	2	2	2	2	2	2	2	
	C56,57		Chip capacitor	MCH212C154KP	2	2	2	2	2	2	2	2	
	R1		Chip resistor	MCR03EZHJ153	1	1	1	1	1	1	1	1	
	R2,3		Chip resistor	MCR03EZHJ301	2	2	2	2	2	2	2	2	
	R10,11		Chip resistor	MCR03EZHJ105	2	2	2	2	2	2	2	2	
	R16		Chip resistor	MCR03EZHG822	1	1	1	1	1	1	1	1	
	R17		Chip resistor	MCR03EZHG392	1	1	1	1	1	1	1	1	
	R18		Chip resistor	MCR03EZHG202	1	1	1	1	1	1	1	1	
	R19		Chip resistor	MCR03EZHG102	1	1	1	1	1	1	1	1	
	R20		Chip resistor	MCR03EZHF1102	1	1	1	1	1	1	1	1	

Notes: N – New parts
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IMU, MMU : For USA
JM, NM : For B.O.S.S.
IM, MM : Others

N	Item	Code No.	Parts Name	Specification	Q								R
					4450A	4650A	4950A			4970A			
					AM	EM	IMU	JM	IM	MMU	NM	MM	
	R21		Chip resistor	MCR03EZHJ473	1	1	1	1	1	1	1	1	
	R22		Chip resistor	MCR03EZHF9102	1	1	1	1	1	1	1	1	
	R23		Chip resistor	MCR03EZHF1003	1	1	1	1	1	1	1	1	
	R25		Chip resistor	MCR03EZHJ182	1	1	1	1	1	1	1	1	
	R26		Chip resistor	MCR03EZHJ473	1	1	1	1	1	1	1	1	
	R27		Chip resistor	MCR03EZHJ102	1	1	1	1	1	1	1	1	
	R28		Chip resistor	MCR03EZHG105	1	1	1	1	1	1	1	1	
	R32,100		Chip resistor	MCR03EZHJ000	2	0	2	2	2	0	0	0	
	R36,71, 72,73		Chip resistor	MCR03EZHJ823	4	4	4	4	4	4	4	4	
	R50		Chip resistor	MCR03EZHJ124	1	1	1	1	1	1	1	1	
	R74,100		Chip resistor	MCR03EZHJ000	0	2	0	0	0	0	0	0	
	R75,100		Chip resistor	MCR03EZHJ000	0	0	0	0	0	2	2	2	
	R102, 103		Chip resistor	MCR03EZHJ474	2	2	2	2	2	2	2	2	
		LCD ASS'Y											
N	14	3335 6356	LCD	CD1034A-TS	1	1	1	1	1	1	1	1	B
N	15	6417 9870	Heat seal Z889	C340857-1	1	1	1	1	1	1	1	1	B
	16	6417 3871	COF3015-F1sub ass'y	C340532A*3	1	1	1	1	1	1	1	1	B
N	17	6418 0220	HS tape Z888	C441302-1	1	1	1	1	1	1	1	1	B
		COMPONENT											
N	1	6417 9860	Display plate Z888AM	C340806-1	1	0	0	0	0	0	0	0	C
N	1	6417 9980	Display plate Z888EM	C340806-2	0	1	1	1	1	0	0	0	C
N	1	6418 0190	Display plate Z888MM	C340806-4	0	0	0	0	0	1	1	1	C
N	2	6417 9800	Upper caseZ888AM	C140316-1	1	0	0	0	0	0	0	0	X
N	2	6417 9930	Upper caseZ888EM	C140316-2	0	1	0	0	0	0	0	0	X
N	2	6418 0060	Upper caseZ888IM	C140316-3	0	0	1	1	1	0	0	0	X
N	2	6418 0140	Upper caseZ888MM	C140316-4	0	0	0	0	0	1	1	1	X
N	3	6417 9840	Knob Z888AM	C240605-1	1	0	0	0	0	0	0	0	B
N	3	6417 9970	Knob Z888EM	C240605-2	0	1	0	0	0	0	0	0	B
N	3	6418 0100	Knob Z888IM	C240605-3	0	0	1	1	1	0	0	0	B
N	3	6418 0180	Knob Z888MM	C240605-4	0	0	0	0	0	1	1	1	B
N	4	6418 0040	LCD spacer Z888	C441361-1	1	1	1	1	1	1	1	1	B
	6	6512 6040	Jack cover L571AM	C311730-1	1	1	1	1	1	1	1	1	B
	7	3122 2380	Buzzer	EFB-S55C41A8	1	1	1	1	1	1	1	1	C
N	8	6417 9810	Lower case Z888AM	C140317-1	1	0	0	0	0	0	0	0	X
N	8	6417 9940	Lower case Z888EM	C140317-2	0	1	0	0	0	0	0	0	X
N	8	6418 0070	Lower case Z888IM	C140317-3	0	0	0	0	1	0	0	0	X
N	8	6418 0150	Lower case Z888MM	C140317-4	0	0	0	0	0	0	0	1	X
N	8	6418 2010	Lower case Z888IMU	C140317-7	0	0	1	1	0	0	0	0	X
N	8	6418 2020	Lower case Z888MMU	C140317-8	0	0	0	0	0	1	1	0	X
N	9	6417 9880	Battery cover Z888	C441222-1	3	3	3	3	3	3	3	3	C
N	10	6417 9890	Label A-Z888AM	C441289-1	1	0	0	0	0	0	0	0	X
N	10	6417 9990	Label A-Z888EM	C441289-2	0	1	0	0	0	0	0	0	X
N	10	6418 0120	Label A-Z888IM	C441289-3	0	0	1	0	1	0	0	0	X
N	10	6418 0200	Label A-Z888MM	C441289-4	0	0	0	0	0	1	0	1	X
N	10	6418 2050	Label A-Z888JM	C441289-5	0	0	0	1	0	0	0	0	X
N	10	6418 2060	Label A-Z888NM	C441289-6	0	0	0	0	0	0	1	0	X
N	11	6417 9820	Hard cover Z888AM	C140318-1	1	0	0	0	0	0	0	0	X
N	11	6417 9950	Hard cover Z888EM	C140318-2	0	1	0	0	0	0	0	0	X

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					4450A	4650A	4950A			4970A			
					AM	EM	IMU	JM	IM	MMU	NM	MM	
N	11	6418 0080	Hard cover Z888IM	C140318-3	0	0	1	0	1	0	0	0	X
N	11	6418 0160	Hard cover Z888MM	C140318-4	0	0	0	0	0	1	0	1	X
N	11	6418 2030	Hard cover Z888JM	C140318-5	0	0	0	1	0	0	0	0	X
N	11	6418 2040	Hard cover Z888NM	C140318-6	0	0	0	0	0	0	1	0	X
	12	6416 5860	Badge label Z850	C440972-1	1	1	1	1	1	1	1	1	X
N	13	6417 9790	Rubber key Z888AM	C140315-1	1	0	0	0	0	0	0	0	C
N	13	6417 9920	Rubber key Z888EM	C140315-2	0	1	0	0	0	0	0	0	C
N	13	6418 0050	Rubber key Z888IM	C140315-3	0	0	1	1	1	0	0	0	C
N	13	6418 0130	Rubber key Z888MM	C140315-4	0	0	0	0	0	1	1	1	C
N	19	6417 9620	Z888-1 ass'y	C140336A*1	1	0	0	0	0	0	0	0	B
N	19	6417 9670	Z888-1 ass'y	C140336A*2	0	1	0	0	0	0	0	0	B
N	19	6417 9710	Z888-1 ass'y	C140336A*3	0	0	1	1	1	0	0	0	B
N	19	6417 9750	Z888-1 ass'y	C140336A*4	0	0	0	0	0	1	1	1	B
	22	6410 0150	Switch sping L525AM	C412167-2	1	1	1	1	1	1	1	1	B
N	23	6417 9850	Switch knob Z888	C240606-1	1	1	1	1	1	1	1	1	B
N	24	6417 9830	Battery cover Z888AM	C240589-1	1	0	0	0	0	0	0	0	C
N	24	6417 9960	Battery cover Z888EM	C240589-2	0	1	0	0	0	0	0	0	C
N	24	6418 0090	Battery cover Z888IM	C240589-3	0	0	1	1	1	0	0	0	C
N	24	6418 0170	Battery cover Z888MM	C240589-4	0	0	0	0	0	1	1	1	C
	25	6410 0170	Rubber key L525AM	C311028-3	1	1	1	1	1	1	1	1	B

Parts prices will be informed separately by Parts Price List.

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CASIO COMPUTER CO.,LTD.
Service Division

8-11-10, Nishi-Shinjuku
Shinjuku-ku, Tokyo 160, Japan
Telephone: 03-3347-4926